10/18 (3)

PETITION OF NATIONAL GRID, LOCATION OF RECTIFIER

NOTICE TO ABUTTERS

In conformity with the requirements of the General laws, you are hereby notified that a public hearing will be held in Room 204 of the Acton Town Hall, on the **18th day of October at 7:30 o'clock PM**, upon the petition of National Grid, for permission to install a Gas Rectifier at 33 Ethan Allen Drive.

To install and maintain	One Gas Rectifier (device used to detect gas leaks) at 33 Ethan Allen

By: Acton Board of Selectmen

TOWN OF ACTON
472 Main Street
Acton, Massachusetts, 01720
Telephone (978) 264-9628
Fax (978) 264-9630

Engineering Department

INTERDEPARTMENTAL COMMUNICATION

To: **Board of Selectmen** ***Date:*** October 1, 2010

From: **Engineering Department**

Subject: **National Grid – Rectifier Petition – 33 Ethan Allen Drive**

We reviewed the petition from National Grid to install and maintain a rectifier on Ethan Allen Drive. The proposed rectifier will be located at the utility pole next to 33 Ethan Allen Drive. National Grid has provided a sketch showing the proposed work.

I had spoken with the Gas Company & their subcontractor in the past while reviewing prior requests to install the same type of facility at other locations in Town such as Kingman Road, Country Club Road, School Street & Wood Lane. According to our discussions, this work is being proposed in order to provide corrosion protection for the existing gas mains. There are two components of the cathodic protection facility. The first part of the corrosion protection will be a 6" x 6" pressure-treated post that will be set approximately 5-6 feet from the existing utility poles. This post will be about 6-feet in height above the ground surface and will be used to attach the proposed electric meter and the mechanical devices used for the corrosion protection. We were told by the Gas Company that the electric wiring to the existing utility pole will be installed underground for all the units. We were also told by the Gas Company that they were unable to obtain permission to install these units onto the existing utility poles. As a result, they have to install these posts so that they can attach the required devices necessary for the corrosion protection. Below are photos of an existing rectifier pole located on Parker Street at the intersection of River Street:

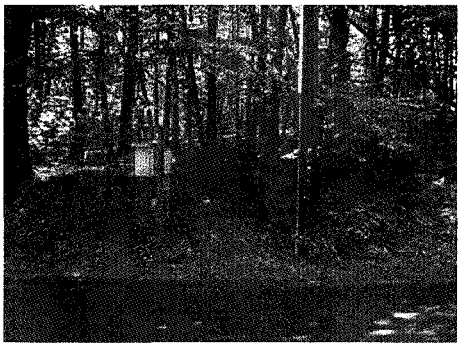


Figure 1- Existing Rectifier Pole on Parker St opposite River Street

33 Ethan Allen Dr.
Acton, MA 01720

Board of Selectmen
c/o Steve Ledoux, Town Manager
Acton Town Hall
472 Main St.
Acton, MA 01720

RE: National Grid cathodic protection rectifier location

We, the property owners of 33 Ethan Allen Dr., Acton, understand that National Grid has petitioned the Town of Acton for authorization to locate a cathodic protection rectifier on town property adjacent to our lot at the intersection of Ethan Allen Dr. and Ticonderoga Rd. We have met with representatives of National Grid, who pointed out the precise location where they intend to install the rectifier unit in question, adjacent to an existing utility pole on the southern corner of our lot. The National Grid representatives also showed us a picture depicting what a typical cathodic rectifier unit looks like. With the understanding that the proposed rectifier unit will not be located within our property line, we have no objection to National Grid's petition and we would be supportive of the Board of Selectmen's approval of said petition.

cc: Jack Warchol
Community Relations Coordinator
National Grid, 40 Sylvan Rd., Waltham , MA

Corey York
Town of Acton Highway Department
14 Forest Rd., Acton, MA

Christine Joyce

From: Corey York
Sent: Thursday, October 07, 2010 12:49 PM
To: Steve Ledoux
Cc: Christine Joyce
Subject: Fwd: Rectifier - Ethan Allen Dr.

FYI attached is an email from ann sussman regarding the DRB discussion on the gas company petition

Begin forwarded message:

From: Ann Sussman <annsmail4@gmail.com>
Date: October 7, 2010 12:28:55 PM EDT
To: Engineering Department <Engineering@acton-ma.gov>, Paul Campbell <pcampbell@acton-ma.gov>
Cc: "msrraymond@aol.com" <msrraymond@aol.com>
Subject: FW: Rectifier - Ethan Allen Dr.

To: Engineering dept:

The DRB met with the proponent last night and determined that the proponent's current discussion with the property owner impacted covering potential tree plantings to somewhat mask the installation appears sufficient.

Thank you,

Best,

Ann

Ann Sussman RA, LEED AP

DRB Chair

978 790 7776

From: msrraymond@aol.com [mailto:msrraymond@aol.com]
Sent: Thursday, October 07, 2010 12:13 PM
To: annsmail4@gmail.com
Subject: Rectifier - Ethan Allen Dr.

Ann,

Could you forward over the decision from the meeting last night to Paul & Corey in engineering department

Thanks!

Matthew S. Raymond

M.S.R. Utility Maintenance Corp.

Cell: 978-375-0014

Office: 978-649-0002

Fax: 978-649-6059

8/31/2010

- Drainage
- Bounds
- DRB
- owner consent / acknowledgment

Figure 2 - Typical set-up of an existing cathodic protection rectifier pole

The second part of the cathodic protection is a series of metal rods (anodes) that will be drilled into the ground for a depth of about 35-feet. I was told by the Gas Company that these metal rods and the associated wiring will be entirely underground.

We recommend that the Board of Selectmen also consider the following conditions:

1. This approval is conditional and National Grid is required to relocate the facilities, at no additional cost to the Town, to accommodate future considerations by the Town such as sidewalks, etc...

2. The approval of these facilities is limited to the exact dimensions (height, width, etc) as set forth in this submittal. National Grid cannot increase the size of these facilities or add additional units without first obtaining approval from the Board of Selectmen.

3. No other facilities from other utility companies can be added onto this unit without first obtaining approval from the Board of Selectmen.

4. National Grid will install screening around these facilities, as appropriate, to obstruct the view of these units to maintain the character of the Town.

5. National Grid shall pay a fee to the Town to allow these facilities to be installed on Town property. We recommend that the Town charge a $40 fee per location. This is the same fee that is charged for petitions for new utility poles.

6. National Grid will be responsible to ensure that the work does not encroach onto private property. If the work is located on private property, National Grid will need to seek permission from the private landowners before they can enter upon the premises. The Town does not have the authority to grant permission to work on private property.

7. Any locations where National Grid needs to cut the road pavement to access the existing gas main should have the final pavement patch done by the "grind and inlay method" as previously used by the gas company in other locations in Town. National Grid will need to obtain Permits to Construct within a Public Way from this department prior to starting work.

We visited Ethan Allen Drive and have the following comments regarding the proposed work:

Figure 3 – Proposed Location for the Rectifier Pole next to the driveway for 33 Ethan Allen Drive

Figure 4 – Proposed Location for the Anode Rods within the Ticonderoga Road R.O.W. next to 35 Ethan Allen Drive

1. There appears to be a drain pipe entering into the catch basin in the same general vicinity as the rectifier approximately 4.5' below ground level. National Grid needs to take the necessary precautions to avoid damaging this drain line.

2. The abutter at 35 Ethan Allen Drive may have a drain pipe entering the catch basin within the Ticonderoga Road right of way in the same vicinity as the proposed anodes. National Grid needs to take the necessary precautions to avoid damaging this drain line during the installation of the anodes and the associated wiring. We recommend that National Grid contact the abutter at 35 Ethan Allen Drive to ensure there are no other issues with the proposed anode bed.

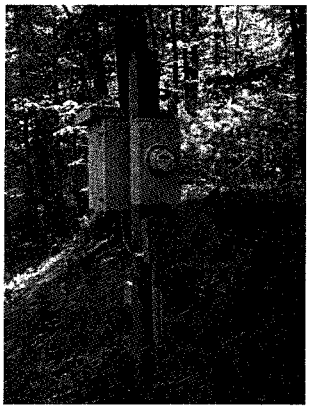
3. This proposed work is also in the same general vicinity as some road bounds marking the edge of the layouts for Ethan Allen Drive and Ticonderoga Road. We are concerned that these points may be disturbed and/or destroyed during construction. These monuments should be labeled on the plan along with a note to locate/mark these points in the field prior to construction. There should also be a condition that if these survey markers are damaged or destroyed during construction that the applicant will hire a registered land surveyor to reset the monuments and certify the new locations.

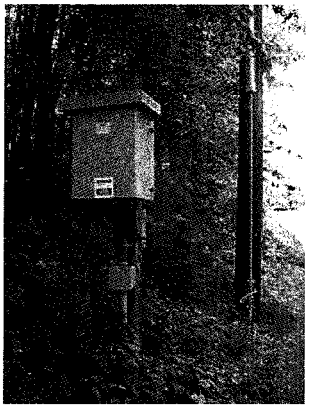
4. National Grid was required by the Board of Selectmen to present these projects to the Design Review Board for their review and comments. We sent the attached list to National Grid to describe the steps they need to follow in order to obtain permission from the Board of Selectmen for a new rectifier pole installation.

5. It appears that the homeowner at this location has a fence and some plantings in the same location as the rectifier. These features are not shown on the plan and we are not sure how they will be handled and/or relocated.

We do not foresee any problems with granting this petition. If you have any questions, or need any additional information, please let us know.

Town Procedure for
Gas Company - Rectifier Installation

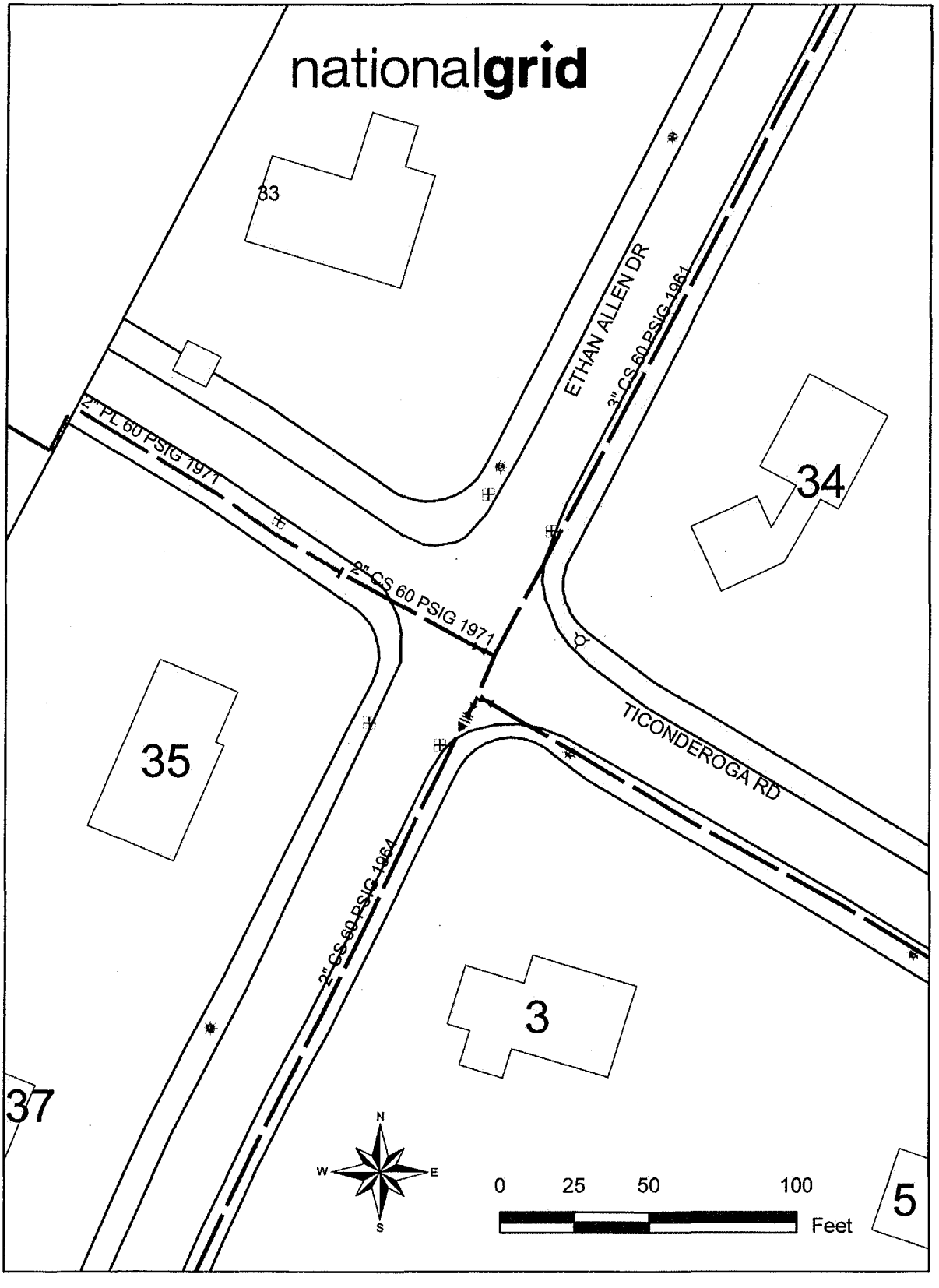


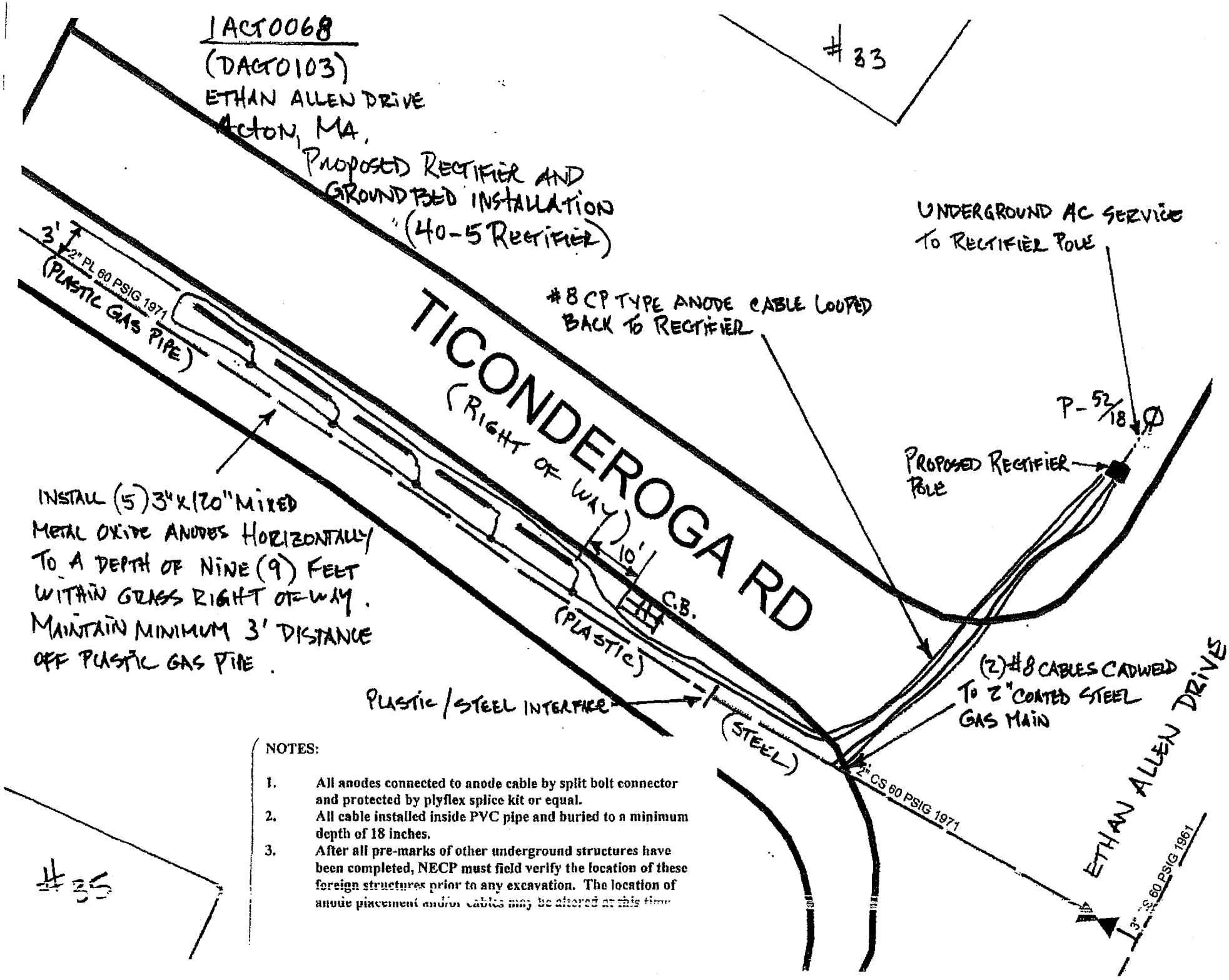


Typical set-up of an existing Gas Company cathodic protection rectifier pole

1. Rectifier Systems require Board of Selectmen (BOS) approval
2. The Board wants the Gas Company to provide a letter signed by the direct abutters approving the placement of the rectifier equipment.
3. The initial request for the installation of the Rectifier System shall be sent to the Town Manager's Office, the Engineering Department and the Design Review Board (DRB).
4. After the Town Manager's Office receives comments from the Engineering Department and the Design Review Board, the Board of Selectmen will then schedule a hearing at one of their regularly scheduled meetings to discuss and vote on the project.
5. When the Board of Selectmen schedules a hearing the Gas Company is required to:
    - Notify all abutters within (300 ft) of the proposed work no later than 2 weeks prior to the meeting
    - Obtain a certified abutter's list from the Assessor's Department.
    - Submit a copy of this abutter's list to the Board of Selectmen
    - Submit a copy of the notification that was sent to the abutters
    - Provide proof of notification (certified Mail) for the abutter notifications

Note: This is not the case for underground installations of wires, gas mains, etc as they are below ground and do not require DRB comment. Once the Board approves the work, the original application signed by the BOS is forwarded to the Town Clerk and the Clerk processes the application for payment.


nationalgrid
33
ETHAN ALLEN DR
3" CS 60 PSIG 1961
2" PL 60 PSIG 1971
2" CS 60 PSIG 1971
34
35
TICONDEROGA RD
2" CS 60 PSIG 1964
3
37
5
N
W
E
S
0
25
50
100
Feet



NOTES:

1. All anodes connected to anode cable by split bolt connector and protected by plyflex splice kit or equal.
2. All cable installed inside PVC pipe and buried to a minimum depth of 18 inches.
3. After all pre-marks of other underground structures have been completed, NECP must field verify the location of these foreign structures prior to any excavation. The location of anode placement and/or cables may be altered at this time

PETITION OF NATIONALGRID FOR GAS MAIN LOCATIONS

Town of Acton / Board of Selectmen:–

The Nationalgrid hereby respectfully requests your consent to the locations of mains as hereinafter described for the transmission and distribution of gas in and under the following public streets, lanes, highways, and places of the **Town of Acton** and of the pipes, valves, governors, manholes and other structures, fixtures and appurtenances designed or intended to protect or operate said mains and accomplish the objects of said Company; and the digging up and opening the ground to lay or place same:

To install and maintain a rectifier in Ethan Allen Drive , Acton.

The Proposed rectifier will be loacated at House #33 Ethan Allen Drive and Pole 52/18.

DATE **August 16,2010**

BY _____
Dennis K. Regan
Permit Representative

ORDER FOR GAS MAIN LOCATION

Town of Acton / Board of Selectmen:

IT IS HEREBY ORDERED that the locations of the mains of the Nationalgrid for the transmission and distribution of gas in and under the public streets, lanes, highways, and places of the **Town of Acton** substantially as described in the petition dated **August 16, 2010** attached hereto and hereby made a part hereof, and of the pipes, valves, governors, manholes and other structures, fixtures and appurtenances designed or intended to protect or operate said mains and/or accomplish the objects of said Company, and the digging up and opening the ground to lay or place same, are hereby consented to and approved.

The said Nationalgrid shall comply with all applicable provisions of law and ordinances of the **Town of Acton** applicable to the enjoyment of said locations and rights.

Dated this _____ day of _____, 20 _____.

I hereby certify that the foregoing order was duly adopted by the _____ of the City of _____, MA on the _____ day of _____ 20 _____.

BY _____

_____
Title

MN # 144-8502-

RETURN ORIGINAL TO THE PERMIT SECTION
Nationalgrid
40 Sylvan Road, WALTHAM, MA 02451
RETAIN DUPLICATE FOR YOUR RECORDS

FORM #1444, Rev. 90

nationalgrid

8/11/2010

Purpose of Rectifier Installation

Cathodic Protection of Steel Gas Main
Buried steel pipelines that transport natural gas in the United States are regulated under Title 49 of the Code of Federal Regulations, Part 192, Subpart I. The regulations require buried steel pipelines installed after July 31, 1971 must be coated and cathodically protected. The coating is an electrically non-conductive material that is bonded to the exterior of the steel pipe. The cathodic protection uses a sacrificial material (the anode) and power source to provide secondary protection at faults in the coating. The coating faults allow direct contact with the soil that would eventually corrode to the point where the pipeline would leak or rupture.

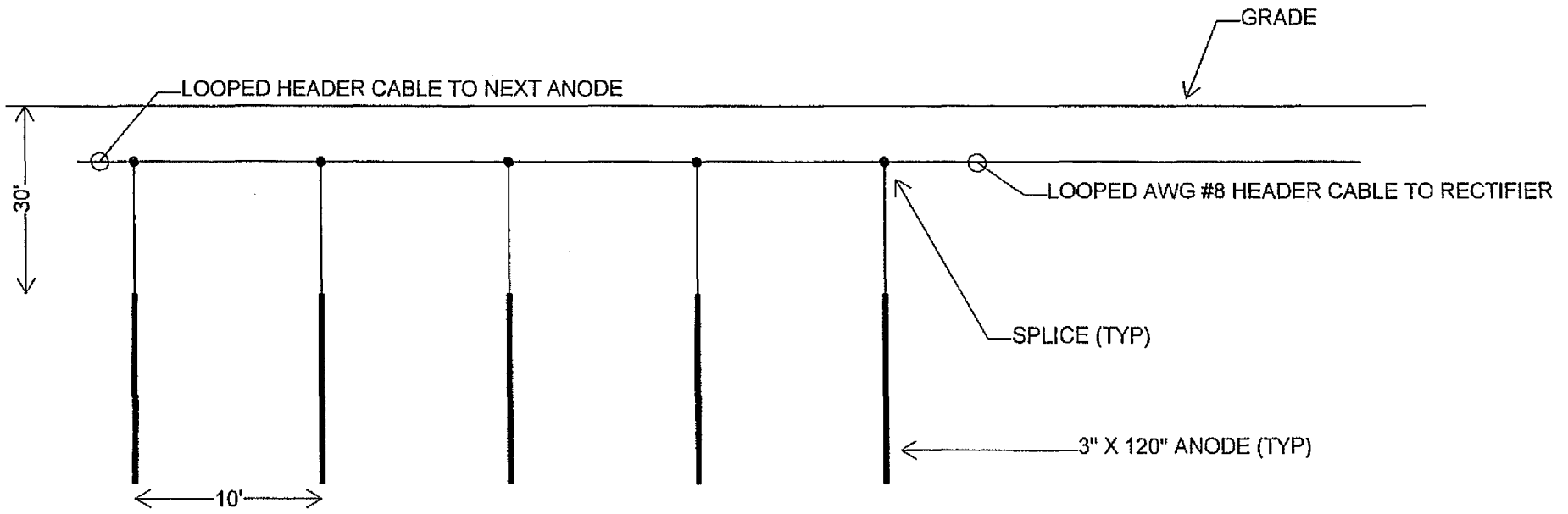
Cathodic Protection Process
Cathodic protection is a direct current electrical process which has four basic components, the anode, power source, pipeline being protected and the soil in which the pipeline and anode are buried. Insulated copper wire interconnects the power source to both the pipe and anodes. For galvanic systems, which use magnesium or zinc anodes, the power is generated by the electric potential difference between the steel and magnesium or zinc materials. For impressed current systems, like this proposed installation, iron or other metals of similar electrical potential are used as anodes. The driving voltage for an impressed current system is provided by a rectifier, which develops direct current and voltage usually from a commercial alternating current source.

Anode/Cathode Process
The process involves electric DC current generated by the rectifier, traveling from the anode bed through the electrolyte (soil) to the pipeline and back to the rectifier. This causes the anode bed to corrode instead of the gas main. The elements produced from this electrochemical process are oxygen & hydrogen in this environment. Oxygen will form around the anode surface and hydrogen will form around the gas main surface. This mitigates the corrosion process by keeping DC current flowing in the proper direction and minimizes the amount of oxygen on the pipeline surface, which removes the oxidation process.

The elements discussed above are naturally occurring elements in our environment. The levels created by the process have no effect on the surrounding environment. This method of protecting coated steel gas mains from corrosion is an accepted practice in the pipeline industry due to a non-existent impact on the environment.

Rectifier & Groundbed Installation

An auger truck is used to install the anodes to a designed depth. A typical groundbed installation varies in depth, between 15 to 40 feet. Once the anodes have been installed, a trench is dug to a depth of 18" that travels from the furthest anode to the location of the rectifier. This trench is dug with a backhoe, trencher (Ditch Witch) or by hand. The anode lead wires are spliced into a header cable that is installed in the trench. The header cable is inserted into a small diameter electrical conduit which is buried with caution tape. This is done for digger awareness. The rectifier is typically installed on a 6"x6" pressure treated post at a height of 6' to the top. The post is installed in a safe but convenient location to AC power. The anode header cable is attached to the rectifier along with a cable that has been attached to the gas main. Lastly, an AC power line is dropped down from a nearby utility pole and is metered to our rectifier.



ANODE GROUNDBED LAYOUT - SIDE VIEW

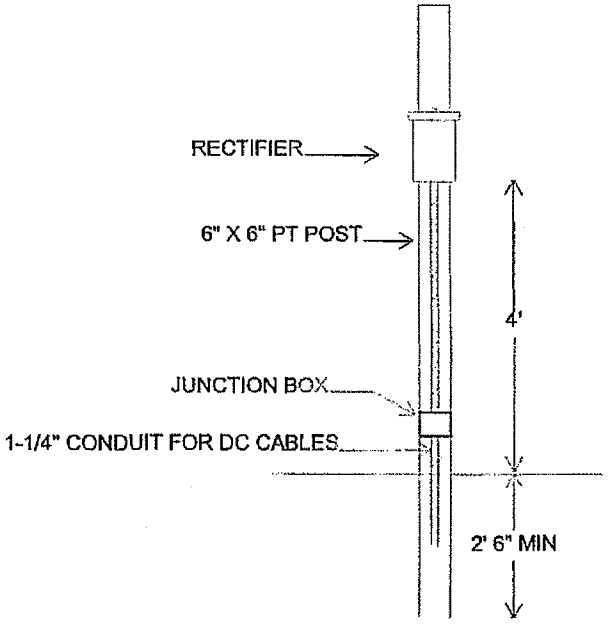
NOTES:

1. TEN (10) ANODES ARE TO BE INSTALLED.
2. INSTALL ANODES VERTICALLY. 30 FT TO TOP OF ANODE.
3. BACKFILL AROUND ANODES WITH NATIVE SOIL. DO NOT USE SAND.

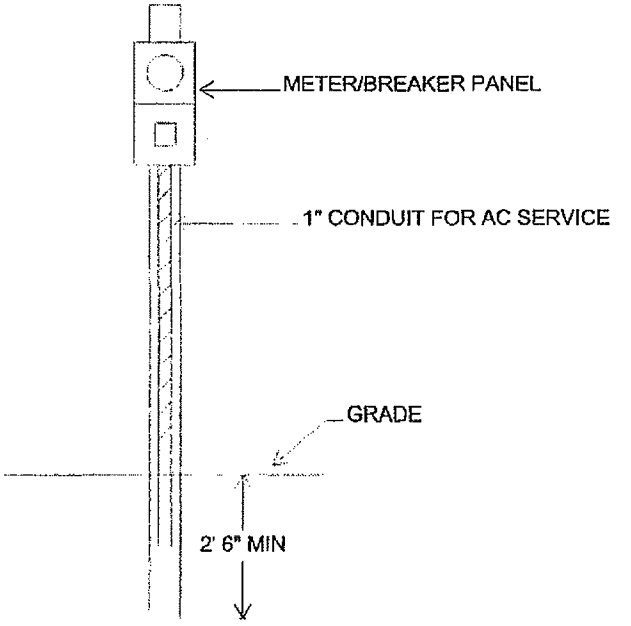
PROPOSED ANODE GROUNDBED LAYOUT

SCALE: NONE	DWG. NO: 0002-014	DATE: AUG 2000
DRAWN BY: TBW		REV:

C:\DATA\Visual Cadd Drawings\DCHA0002 14 Anode Groundbed vcd 10/9/2000



RECTIFIER - FRONT VIEW



RECTIFIER - REAR VIEW

NOTES:

1. ALL WORK MUST BE IN COMPLIANCE WITH APPLICABLE CODES.
2. ROUTE AC SUPPLY FROM METER/BREAKER PANEL TO RECTIFIER IN FLEXIBLE CONDUIT.
3. INSTALL BOTTOM OF POST AT LEAST 2' 6" BELOW GRADE.
4. INSTALL AT LEAST 300 LBS. OF CEMENT AROUND BASE OF POST.

TYPICAL RECTIFIER INSTALLATION
TYPE ES RECTIFIER

SCALE: NONE	DWG. NO: 0002-100	DATE: OCT 2000
DRAWN BY: TEW		REV.

Town of Acton
472 Main Street
Acton, MA 01720
Telephone (978) 264-9622
Fax (978) 264-9630

Brian McMullen
Assessor

Parcel Location 33 Ethan Allen Dr
Parcel I.D.: G1-1

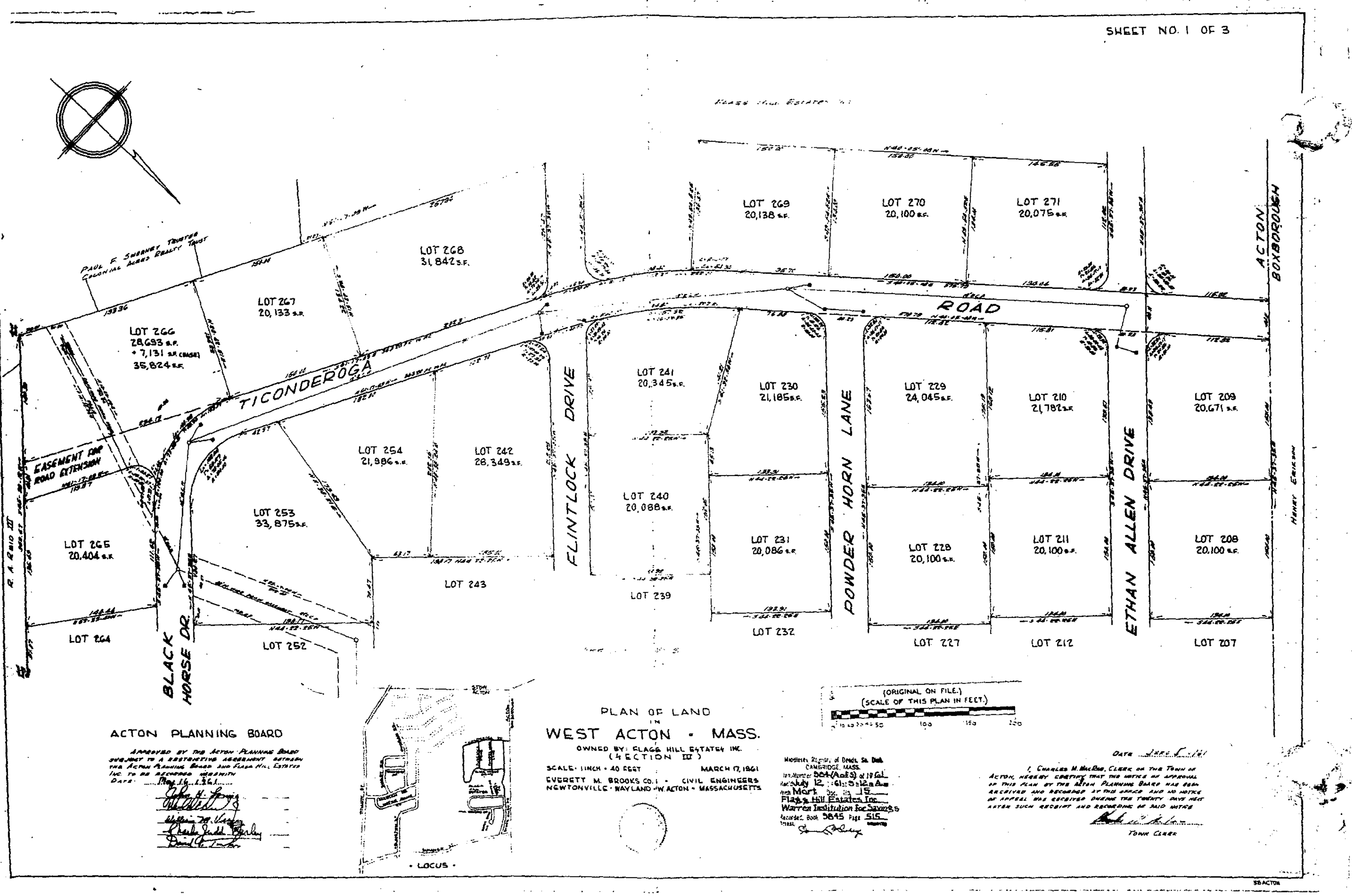
Location	Parcel ID	Owner	Co-Owner	Mailing Address	City	ST	Zip	
27 Ethan Allen Dr	F1-181	POOLE CURTIS E	SONMEZ-POOLE GONCA	27 ETHAN ALLEN DR	ACTON	MA	01720	
29 Ethan Allen Dr	F1-195	DYKIEL RICHARD	DYKIEL ANNE-MARIE	29 ETHAN ALLEN DR	ACTON	MA	01720	
28 Ethan Allen Dr	F1-196	BUTLER DAVID A	ETHEL S	28 ETHAN ALLEN DR	ACTON	MA	01720	
30 Ethan Allen Dr	F1-206	EVANGELOS SCOTT P	EVANGELOS SARA P	30 ETHAN ALLEN DRIVE	ACTON	MA	01720	
31 Ethan Allen Dr	F1-216	KHAN ALI R	ALI SHABANA	31 ETHAN ALLEN DR	ACTON	MA	01720	
32 Ethan Allen Dr	G1-29	SELLING ROBERT M	ELIZABETH	32 ETHAN ALLEN	ACTON	MA	01720	
35 Ethan Allen Dr	G1-13	SHAYA MOUSA	SHAYA JILL BLUMENTHAL	35 ETHAN ALLEN DR	ACTON	MA	01720	
34 Ethan Allen Dr	G1-14	ROY SAROJ	ROY ALOKA	34 ETHAN ALLEN DR	ACTON	MA	01720	
7 Powderhorn Ln	G1-15	WONG EDMUND S		7 POWDER HORN LANE	ACTON	MA	01720	
37 Ethan Allen Dr	G1-29	FROST WILLIAM H	FROST DEBORAH E	37 ETHAN ALLEN DR	ACTON	MA	01720	
3 Ticonderoga Rd	G1-30	FITZGERALD JASON W	FITZGERALD HOLLY M	3 TICONDEROGA RD	ACTON	MA	01720	
6 Ticonderoga Rd	G1-31	JACKMAN JAMES D	JACKMAN RHONDA M	6 TICONDEROGA ROAD	ACTON	MA	01720	
39 Ethan Allen Dr	G1-47	CERASO JANE	LOWE JOSTEN STEPHEN	39 ETHAN ALLEN DR	ACTON	MA	01720	
38 Ethan Allen Dr	G1-48	IGW TRUST	C/O S GRAHAM +M SCHEIER	289 GREAT RD	ACTON	MA	01720	
5 Ticonderoga Rd	G1-49	CAHILL SARAH RHETT		5 TICONDEROGA RD	ACTON	MA	01720	
40 Ethan Allen Dr	G1-65	WALLACK GREGORY S	WALLACK VELINDA RAE	40 ETHAN ALLEN DR	ACTON	MA	01720	
7 Ticonderoga Rd	G1-66	FORD MARK L	FORD SHANNON E	7 TICONDEROGA RD	ACTON	MA	01720	
33 Ethan Allen Dr		MARKOWITZ DANIEL P	MARKOWITZ KATHERINE M	33 ETHAN ALLEN DR	ACTON	MA	01720	TEL 978-263-7021

Abutters and owners of land directly opposite on any public or private street or way and abutters to the abutters within three hundred feet of the property line all as they appear on the most recent applicable tax list.

Brian McMullen
Assessor

07/02/2010

1969 As-Built Plan
TICONDEROGA ROAD
EXISTING RIDE
N45-37-35E 445.07
R=1020.00 Δ=22-33-24
CONC. BD. w/D.H. SET 8/20/69
CONC. BD. w/D.H. SET 8/21/69
CONC. BD. W/D.H. SET 8/20/69
S45-37-35W 120.51
R=980.00 Δ=22-33-24
EDGE OF PAVEMENT
EDGE OF PAVEMENT
POLE 19
POLE 152/2
16" WATER MAIN
150 GATE
INT 26+99.34
R=20.00 Δ=94-17-17 L=32.91
R=29.92 L=20.00
30+0
29+0
28+0
+50
+25


SHEET NO. 1 OF 3
LOT 269
20,138 S.F.
LOT 270
20,100 S.F.
LOT 271
20,075 S.F.
LOT 268
31,842 S.F.
LOT 267
20,133 S.F.
LOT 266
28,693 S.F.
+ 7,131 S.F.
35,824 S.F.
PAUL F. SWEENEY TRUSTEE
COLONIAL ACRES REALTY TRUST
TICONDEROGA
ROAD
ACTON
BOXBOROUGH
EASEMENT FOR ROAD EXTENSION
LOT 241
20,345 S.F.
LOT 230
21,185 S.F.
LOT 229
24,045 S.F.
LOT 210
21,782 S.F.
LOT 209
20,671 S.F.
LOT 254
21,986 S.F.
LOT 242
28,349 S.F.
LOT 240
20,088 S.F.
LOT 253
33,875 S.F.
LOT 231
20,086 S.F.
LOT 228
20,100 S.F.
LOT 211
20,100 S.F.
LOT 208
20,100 S.F.
LOT 265
20,404 S.F.
LOT 243
LOT 239
FLINTLOCK DRIVE
POWDER HORN LANE
ETHAN ALLEN DRIVE
LOT 264
LOT 252
LOT 232
LOT 227
LOT 212
LOT 207
BLACK HORSE DR.
R. A. REID III
HENRY ERIKSON
ACTON PLANNING BOARD
APPROVED BY THE ACTON PLANNING BOARD SUBJECT TO A RESTRICTIVE AGREEMENT BETWEEN THE ACTON PLANNING BOARD AND FLAGG HILL ESTATES INC. TO BE RECORDED HEREWITH
DATE: May 16, 1961
• LOCUS •
PLAN OF LAND
IN
WEST ACTON • MASS.
OWNED BY: FLAGG HILL ESTATES INC.
(SECTION III)
SCALE: 1 INCH = 40 FEET
MARCH 17, 1961
EVERETT M. BROOKS CO. • CIVIL ENGINEERS
NEWTONVILLE • WAYLAND • W. ACTON • MASSACHUSETTS
(ORIGINAL ON FILE.)
(SCALE OF THIS PLAN IN FEET.)
Middlesex Registry of Deeds, So. Dist.
CAMBRIDGE, MASS.
Plan Number 564 (A of 3) of 1961
July 12, 1961
Flagg Hill Estates Inc.
Warren Institution for Savings
Recorded, Book 5845 Page 515
DATE
I, CHARLES M. MACRAE, CLERK OF THE TOWN OF ACTON, HEREBY CERTIFY THAT THE NOTICE OF APPROVAL OF THIS PLAN BY THE ACTON PLANNING BOARD HAS BEEN RECEIVED AND RECORDED AT THIS OFFICE AND NO NOTICE OF APPEAL WAS RECEIVED DURING THE TWENTY DAYS NEXT AFTER SUCH RECEIPT AND RECORDING OF SAID NOTICE
TOWN CLERK